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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,780	03/30/2005	Hideki Ichihashi	05224/HG	2277

1933 7590 10/17/2007  
FRISHAUF, HOLTZ, GOODMAN & CHICK, PC  
220 Fifth Avenue  
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NEW YORK, NY 10001-7708

EXAMINER
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GILLESPIE, BENJAMIN

ART UNIT	PAPER NUMBER
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1796

MAIL DATE	DELIVERY MODE
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10/17/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/529,780

Applicant(s)

ICHIHASHI ET AL.

Examiner

Benjamin J. Gillespie

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.138(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 8-14 and 22-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8-14 and 22-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>8/29/2007</u> . | 6) <input type="checkbox"/> Other: _____  |

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/25/2007 has been entered.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 8 and 22-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kube ('212) in view of Greco ('839). Kube teaches a hot-melt adhesive based on an isocyanate-terminated prepolymer comprising the reaction product of polyisocyanate and a mixture of polyol comprising both crystalline and amorphous polyester (Abstract). In particular, patentee

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explains that the crystalline polyester is present in the polyol mixture between 40 and 94% by weight, exhibits at least 30% crystallinity, as measured by X-Ray diffraction, has a number average molecular weight between 3,000 and 7,000, and is the reaction product of hexamethylene glycol and adipic acid (Col 2 lines 12-17, 47-49, 54-55, 57, and 59).

4. The amorphous polyester is present in the polyol mixture by as much as 40% by weight, has a number average molecular weight between 1,500 and 5,000, and is the reaction product of ethylene glycol, neopentyl glycol, and phthalic acid (Col lines 50-51, 65-67; col 3 lines 9, 14-16, and 45-46). Kube finally teaches that the composition may further comprise polyether polyol, and the polyisocyanate is present relative to the hydroxyl-functional material in an equivalent ratio ranging between 1.8 and 2.7 (Col 1 lines 19-21; col 42-45). However, patentee is silent in disclosing polycarbonate polyol present in the polyol mixture.

5. Greco also teaches hot-melt adhesives based on isocyanate-terminated prepolymers comprising the reaction product of polyisocyanate and a mixture of polyol (Abstract; col 3 lines 49-50). In particular, patentee explains that the polyol preferably consists of hexane-diol based polycarbonate polyol that has a molecular weight as low as 1,500, and can include up to 50% by weight polyester polyol, wherein said polyester is crystalline and amorphous (Col 1 lines 43-62, col 2 lines 12-19, 58-60, 66-68; col 4 lines 1-7, 54-60). Greco goes on to explain that by combining polycarbonate and polyester, it overcomes certain obstacles that arise when crystalline polyester is used alone such as material shrinkage, thereby reducing adhesion, and short cure times (Col 1 lines 43-47; col 3 lines 30-40).

6. Therefore, it would have been obvious to include the polycarbonate of Greco in the polyol mixture of Kube based on the motivation that in hot-melt adhesives based on crystalline

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polyester, it is preferred to include polycarbonate because it reduces shrinkage, thereby improving adhesion, it increases the amount of time for workability, and it is prima facie obvious to combine individually old ingredients for their known additive function, i.e. it is obvious to add a known ingredient for its known function; *In re Linder* 173 USPQ 356; *In re Dial et al* 140 USPQ 244.

7. Regarding the claimed amounts of crystalline polyester, amorphous polyester, and polycarbonate, although Greco teaches 50% polycarbonate polyol relative to the polyester, this amount is drawn to the crystalline polyester. Applying this limitation to Kube, i.e. 42-100% by weight crystalline polyester polyol, and 0-42% by weight amorphous polyester polyol as based on the ranges listed on column 3 lines 44-46, the relative amounts of each polyol would consist of:

22-50% by weight crystalline polyester polyol

0-42% by weight amorphous polyester polyol, and

22-50% by weight polycarbonate polyol.

Therefore Kube in view of Greco render obvious the ranges of claim 8.

8. Claims 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kube ('212) in view of Greco ('839) in further view of Carlson et al ('110). Aforementioned, Kube in view of Greco render obvious a hot-melt composition based on isocyanate-terminated prepolymers, which are the reaction product of crystalline polyester, amorphous polyester, and polycarbonate, however patentees fail to disclose a molded product formed said composition that is useful in the semiconductor industry.

9. Carlson et al also teach polyamide hot-melt compositions that are molded in injection-molded machines, are useful in the semi-conductor industry, and it should be noted that polyester-amides encompass polyurethane compositions (Col 1 lines 16-19; col 3 lines 40-46). In particular, patentees explain that the hot-melt moisture cure compositions are preferred because they reduce the amount of toxic bi-products released into the environment compared to standard epoxy compounds, and said hot-melt compositions allow for over-molding or encapsulation of fragile compositions, such as thin strands of wire and electronic circuit boards.
10. As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the hot-melt composition, rendered obvious by Kube in view of Greco, in a molded product, specifically an electronic part based on the motivation that Carlson et al explain said compositions release less toxic bi-products and helps prevent any damage to said electronic part during application.

#### ***Response to Arguments***

11. Applicant's arguments with respect to claims 8-14, 22-27 have been considered but are moot in view of the new ground(s) of rejection.


#### ***Conclusion***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin J. Gillespie whose telephone number is 571-272-2472. The examiner can normally be reached on 8am-5:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

B. Gillespie

  
RABON SERGENT  
PRIMARY EXAMINER